

Miami-Dade County, Florida

BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT

BOARD AND CODE ADMINISTRATION DIVISION

PRODUCT CONTROL SECTION

11805 S.W. 26 Street Room 208

Miami, Florida 33175-2474

T (786) 315-2590 Fax (786) 315-2599

Laboratory Certificate



This certifies that Intertek Testing Services NA, Inc. located at 3933 U.S. Rt. 11, Cortland, NY 13045 is an approved Testing Laboratory in accordance with Miami-Dade County Department of Regulatory and Economic Resources and Protocol 7AS301-94, and is Certified to perform the following tests:

U.S. Department of Labor (OSHA)
Recognized in Federal Register under
29 CFR 1910.7.
Standard Council of Canada Certificate No. 86
International Accreditation Service (IAS) TL-212
International Accreditation Service (IAS) AA-647
A2LA TL Certificate Number 1249.02

Results of the above mentioned test shall be properly submitted to the Miami-Dade County Department of Regulatory and Economic Resources per 7AS301-94, along with all other documentation required for the approval of products. Approved engineer(s) for this laboratory:

Frederick Curkeet, P.E.

This Certification and Registration Approved: July 7, 2016

This Certification and Registration Expires : July 27, 2021

Certification No. : 16-0531.02 Renews: 11-0411.01

A handwritten signature in black ink, appearing to read "Helmy A. Makar".

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
Product Control Section

A handwritten signature in black ink, appearing to read "Americo Segura".

Americo Segura, M.S.
Quality Assurance Unit Supervisor
Product Control Section

The Miami-Dade County Department of Regulatory and Economic Resources reserves the right to remove this certification for non-compliance with rules and regulations as set by Protocol 7AS301-94.

International Accreditation Service

CERTIFICATE OF ACCREDITATION

This is to signify that

INTERTEK TESTING SERVICES NA, INC.

3933 U.S. ROUTE 11
CORTLAND, NEW YORK 13045

Testing Laboratory TL-212

has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories*, and has been accredited, commencing September 25, 2014, for the test methods listed in the approved scope of accreditation.

Patrick V. McCullen

Patrick V. McCullen
Vice President, Chief Technical Officer

C. P. Ramani

C. P. Ramani, P.E.
President



ACCREDITED

(see attached scope of accreditation for fields of testing and accredited test methods)

Print Date: 10/01/2014

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation. See the IAS Accreditation Listings on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (552) 364-8201.

Page 1 of 2

International Accreditation Service

SCOPE OF ACCREDITATION

Intertek Testing Services NA, Inc. TL-212

Intertek Testing Services NA, Inc.
3933 U.S. Route 11
Cortland, NY 13045

Terence J. O'Beirne
Quality Manager
(607)758-6316

FIELDS OF TESTING	ACCREDITED TEST METHODS
Fire	ANSI/UL Standards 94, and 1887
Physical/Structural	ANSI Standard Z97.1; ASTM Standards B 117, E 90, G 23 and G 26; ANSI/UL Standards 1, 3, 5, 48, 50, 65, 207, 209, 224, 360, 514A, 514B, 567, 651, 651A, 746C, 797, 884, and 972; UL Standards 6, 181, 1567 and 1660; CPSC 16CFR Standard 1201
Equipment	ANSI Standards Z21.1, Z21.5.1, Z21.5.2, Z21.10.3, Z21.12, Z21.13, Z21.15, Z21.17, Z21.18, Z21.20, Z21.21, Z21.23, Z21.35, Z21.40.1, Z21.42, Z21.44, Z21.47, Z21.48, Z21.49, Z21.50, Z21.56, Z21.58, Z21.60, Z21.83, Z21.86, Z21.89, Z83.4, Z83.8, Z83.9, Z83.11, Z83.16, Z83.18, Z83.19, Z83.25, Z83.26; UL Standards 50E, 296A, 733, 795, 896, 1738, 2097, and 3101-1; ANSI/UL Standards 296, 299, 307A, 307B, 343, 525, 626, 641, 711, 726, 727, 729, 730, 731, 732, 924, 1012, 1097, 1778, 1950 and 1995; ISO/IEC Standard 60529
ENERGY STAR Program Requirements	Appliances ENERGY STAR Program Requirements for Room Air Cleaners Heating and Cooling ENERGY STAR Program Requirements for Ventilating Fans ENERGY STAR Laboratory Guidance Manual: Building a testing facility and performing the solid state test method for ENERGY STAR Qualification of Ceiling Fans Version 1.2, Rev. 03/11 ENERGY STAR Program requirements for Residential Ceiling Fans Version 2.4

September 25, 2014
Commencement Date



C. P. Ramani
C. P. Ramani, P.E.
President

Print Date: 10/01/2014

Page 2 of 2

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13 03892

International Accreditation Service

CERTIFICATE OF ACCREDITATION

This is to signify that

INTERTEK TESTING SERVICES NA, INC.

545 EAST ALGONQUIN ROAD
ARLINGTON HEIGHTS, ILLINOIS 60005

Inspection Agency AA-647

Type A (Third-Party) Inspection Body

has met the requirements of the IAS Accreditation Criteria for Inspection Agencies (AC98), has demonstrated compliance with ISO/IEC Standard 17020:2012, *Requirements for the operation of various types of bodies performing inspections*, and has been accredited, commencing September 30, 2015, to provide inspection services in the approved scope of accreditation.

Patrick V. McCullen

Patrick V. McCullen
Vice President, Chief Technical Officer



C. P. Ramani

C. P. Ramani, P.E.
President

(see attached scope of accreditation for field(s) of inspection, including type, range, methods or procedures)

Print Date: 12/8/2015

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation. See the IAS Accreditation Listings on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 364-8201.

Page 1 of 4

International Accreditation Service

SCOPE OF ACCREDITATION

Intertek Testing Services NA, Inc. AA-647
Type A (Third-Party) Inspection Body

Intertek Testing Services NA, Inc.
545 E. Algonquin Rd.
Arlington Heights, IL 60005

Michael Puls
(608) 836-4400

FIELDS OF INSPECTIONS	TYPE AND RANGE OF INSPECTIONS	INSPECTION METHODS AND PROCEDURES
Wall Assemblies Exterior Cladding Systems and Components Electrical Products and Equipment	In plant In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Fire Doors and Windows	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs

September 30, 2015
Commencement Date

Print Date: 12/8/2015



C. P. Ramani
C. P. Ramani, P.E.
President

Page 2 of 4

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation.
See the IAS Accreditation Listings on the web at www.isonline.org for current accreditation information, or contact IAS directly at (562) 364-8201.

International Accreditation Service

SCOPE OF ACCREDITATION

Intertek Testing Services NA, Inc. AA-647
Type A (Third-Party) Inspection Body

FIELDS OF INSPECTIONS	TYPE AND RANGE OF INSPECTIONS	INSPECTION METHODS AND PROCEDURES
Fire-retardant-Treated Plywood and Lumber	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Foam Plastics	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Gas-and Oil-fired Appliances and Equipment	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Guard and Handrail	In-plant	SMS-ETL-OP-19 ETL-listed and WH Certification Programs
Thermal Insulation Products	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Plumbing Products	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs

September 30, 2015
Commencement Date



C. P. Ramani

C. P. Ramani, P.E.
President

Print Date: 12/8/2015

Page 3 of 4

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation.
See the IAS Accreditation Listings on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 364-8201.

International Accreditation Service

SCOPE OF ACCREDITATION

Intertek Testing Services NA, Inc. AA-647
Type A (Third-Party) Inspection Body

FIELDS OF INSPECTIONS	TYPE AND RANGE OF INSPECTIONS	INSPECTION METHODS AND PROCEDURES
Roof Coverings and Systems	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Solid-fuel-burning Appliances	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Structural Panel Products	In plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Wind Turbines	In-plant	SMS-ETL-OP-19 ETL-Listed and WH Certification Programs
Ballistic-resistant Body Armor	In-plant	RMS-AMER-BA-OP-40 and NLECTC-National Ballistic-resistant Body Armor Inspection Scheme
Manufacturing in fields specified above	Qualification and Follow-up In-plant	ICC-ES Acceptance Criteria AC304



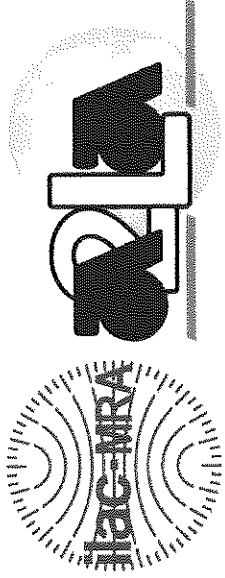
C. P. Ramani
C. P. Ramani, P.E.
President

September 30, 2015
Commencement Date

Print Date: 12/8/2015

Page 4 of 4

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation.
See the IAS Accreditation Listings on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (552) 364-8201.



Accredited Laboratory

A2LA has accredited

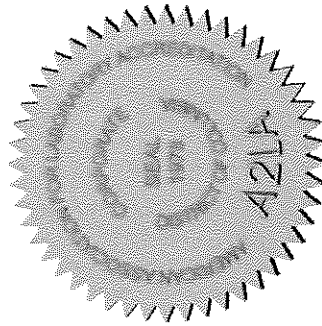
INTERTEK TESTING SERVICES NA INC.

Cortland, NY


for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



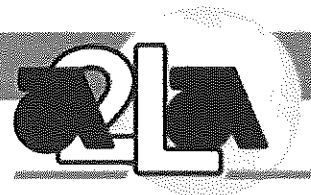
Presented this 21st day of April 2015.



President & CEO

For the Accreditation Council
Certificate Number 1249.02
Valid to March 31, 2017

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

INTERTEK TESTING SERVICES N.A. INC.
3933 U.S. Route 11
Cortland, NY 13045
Terence O'Beirne Phone: 607 758 6316
www.intertek.com

MECHANICAL

Valid To: March 31, 2017

Certificate Number: 1249.02

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's EPA ENERGY STAR® Accreditation Program¹ requirements), accreditation is granted to this laboratory to perform the following tests:

Test Technology:**Test Method(s):**

Salt Spray

ASTM B117;
MIL-STD-810E/F/G, Method 509.4High/Low Temperature with/without
Cycling
(-73 to 177) °CFAA AC 150/5345, -46, -43, -5, -10, -12, -28, -39,
-44, -50, -51, -52, -54, -55;
FAA EB 67B;
49 CFR 571.108; CMVSS 108;
FMVSS 108;
SAE J1383

Thermal Shock

FAA AC 150/5345, -26, -46, -51

Deflection

49 CFR 571.108

Abrasion

49 CFR 571.108

Seal/ Leakage

49 CFR 571.108; CMVSS 108;
FAA AC 150/5345, -46, -42

¹ A2LA provides accreditation to the U.S. EPA's *Conditions and Criteria for Recognition of Laboratories for the ENERGY STAR Program* by verifying an organization's compliance to A2LA document *R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program* and to the related test methods listed above and below.

Accreditation by A2LA does not infer Recognition by the EPA for ENERGY STAR testing. Please verify this organization's recognition status by using the EPA's searchable database, located at http://www.energystar.gov/index.cfm?fuseaction=recognized_bodies_list.show_RCB_search_form

A handwritten signature in black ink, appearing to read 'Peter M. O'Beirne'.

Test Technology:**Test Method(s):**

Immersion	FMVSS 108
Weathering (Xenon ARC)	MIL-STD-810E/F/G, Method 505.4; ASTM G155
Yield Device	FAA AC 150/5345, -27, -28, -39, -44, -46, -51
Shock	FAA AC 150/5345, -46, -47
Humidity (20 to 95) %RH	49 CFR 571.108; CMVSS 108; FAA AC 150/5345, -10, -43, -51, -54; MIL-STD-810E/F/G, Method 507.4
Hydraulic Impact	FAA AC 150/5345, -46
Altitude (Ambient to 57,000 ft, -40 to 100 °C)	MIL-STD-810E/F/G, Method 500.4
Chemical Resistance	FAA AC 150/5345, -42; 49 CFR 571.108
Dust	SAE J1383; 49 CFR 571.108
Electrodynamic Vibration (8,000 force-lbs sinusoidal and random; Maximum 70g's, sinusoidal and random; Maximum 150g's, 6ms shock 2 in Stroke) (3 to 2,000) Hz	SAE J575 (June 1992), J575 (June 2007); FAA 150-5345-46
Measurement and Evaluation of Human Exposure to Hand Transmitted Vibration	ISO 5349-1 (May 2001)
Mechanical Vibration	49 CFR 571.108; CMVSS 108; SAE J575e
Warpage	SAE J575e, SAE J575 (June 2007)
Torque	49 CFR 571.108; CMVSS 108; FAA AC 150/5345, -42, -46
Water Spray	49 CFR 571.108
Compressive Load	FAA AC 150/5345, -42, -46
Mechanical Shear	FAA AC 150/5345-46
Protective Coating	FAA AC 150/5345-42
Wind Blown Rain	MIL-STD-810E/F/G, Method 506.4 (<i>Procedure 1 only</i>)
Bond Test	FAA AC 150/5345, -26
Standard Test Method for Prerinse Spray Valves	10 CFR 431.261; ASTM F2324

Test Technology:**Test Method(s):****LIGHTING TESTING²*****(100 ft, 5m, 25m Goniophotometric System)***

Chromaticity	SAE J576, J578c, J578; FAA AC 150/5345, -12, -46, -43, -27, -28, -50, -51, -52; FAA EB 67; ICAO Annex 14
Airport Lighting Devices	FAA AC 150/5345, -46, -43, -12, -27, -44, -28, -50, -52, 51, -55; FAA EB 67B; ICAO Annex 14
Auto Forward Lighting Devices	SAE J95, J575, J581, J582, J583, J852, J1383, J1735, J2009, J2087; JIS 32, 33; JIS D0203, D1601, D5500, D5504; ECE R1, R5, R8, R19, R20, R31, R38, R45, R56, R57, R76, R98, R112, R113, R119; 49 CFR 571.108
Signaling, Marking, and Rear Lighting Devices	ECE R3, R4, R6, R7, R23, R27, R38, R50, R77, R87, R91; SAE J186, J222, J575, J585, J586, J587, J588, J591, J592, J593, J594, J914, J1319, J1373, J1395, J1398, J1424, J1432, J1889, J2039, J2040, J2041, J3053, J2283, J2139, J2261, J1957; 49 CFR 571.108; CMVSS 108; JIS 38
Warning Lamps and Devices	SAE J595, J774, J887, J845, J1133, J1318, J943; ECE R65
Photometry of Retro-reflective and Reflex Materials	SAE J594, J1967; FAA AC 150/5345- 39; ECE R3, R27
Agricultural Machinery	SAE J137, J974, J975
Construction and Industrial Machinery	SAE J95, J96, J572, J598
All Terrain Vehicles	SAE J1623
Motorcycles	SAE J131, J584, J1306
Snowmobiles	SAE J278, J279, J280, J292
Light Sources	SAE J573; ECE R37, R99
Mirrors	ECE R46, R81; SAE J964; 49 CFR 571.111

² Lighting tests also use customer supplied standards and methods within the parameters listed above.

Test Technology:

VACUUM TESTING

WIND TURBINE TESTING³

Acoustics Method

Wind Turbine Noise Testing

Test Method(s):

ASTM F558, F608, F1409, F2607

IEC 61400-11, *Wind Turbine Generator Systems - Part 11: Acoustic Noise Measurements*, Edition 2, Nov. 2006;
CAN/CSA-C61400-11 *Wind Turbines - Part 11: Acoustic Noise Measurement Techniques*;
MEASNET *Acoustic Noise, Measurement Procedure* Version 2, Jan. 2005;
AWEA 9.1 *Small Wind Turbine and Safety Standard*, Edition 1, 2009;
BWEA *Small Wind Turbine Performance and Safety Standard*, 2008

Electrical

Wind Turbine Power Performance Testing

IEC 61400-12-1 *Wind Turbines - Part 12-1: Power Performance Measurements of Electricity Producing Wind Turbines*, Edition 1, Dec. 2005;
CAN/CSA-C61400-12-1 *Wind Turbines - Part 12-1: Power Performance Measurements of Electricity Producing Wind Turbines*;
MEASNET *Power Performance Measurement Procedure*, Version 5, Dec. 2009;
AWEA 9.1 *Small Wind Turbine Performance and Safety Standard*, Edition 1, 2009;
BWEA *Small Wind Turbine Performance and Safety Standard*, 2008

Wind Turbine Power Quality Testing

IEC 61400-21 *Wind Turbines - Part 21: Measurement and Assessment of Power Quality Characteristics of Grid Connected Wind Turbines*, Edition 2, Aug. 2008;
MEASNET *Power Quality Measurement Procedure*, Version 4, Oct. 2009

Structural

Wind Turbine Safety and Function Testing

IEC 61400-1 *Wind turbines - Part 1: Design Requirements*, Edition 3, Aug. 2005;
IEC 61400-2 *Wind turbines - Part 2: Design requirements for small wind turbines*, Edition 2, Mar. 2006;
CAN/CSA-C61400-1 *Wind Turbines - Part 1: Design Requirements*;
CAN/CSA-C61400-2 *Wind Turbines - Part 2: Design Requirements for Small Wind Turbines*;
AWEA 9.1 *Small Wind Turbine Performance and Safety Standard*, Edition 1, 2009;
BWEA *Small Wind Turbine Performance and Safety Standard*, 2008

³ This laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing Laboratories* for these wind turbine tests.

Test Technology:**Test Method(s):****WIND TURBINE TESTING (Cont'd)³****Structural**

Wind Turbine Duration Testing

IEC 61400-2 *Wind turbines - Part 2: Design Requirements for Small Wind Turbines*, Edition 2, Mar. 2006;
CAN/CSA-C61400-2 *Wind Turbines - Part 2: Design Requirements for Small Wind Turbines*;
AWEA 9.1 *Small Wind Turbine Performance and Safety Standard*, Edition 1, 2009;
BWEA *Small Wind Turbine Performance and Safety Standard*, 2008;
Control and Protection Function testing IEC 61400-22 *Wind Turbines - Part 22: Conformity Testing and Certification*, Edition 1, May. 2005

**PERSONAL PROTECTIVE
EQUIPMENT (PPE)**Standard Performance Specification for
Newly Manufactured Baseball/ Softball
Helmets

NOCSAE DOC ND022

Standard Performance Specification for
Newly Manufactured Baseball/ Softball
Catcher's Helmets with Faceguard

NOCSAE DOC ND024

Standard Performance Specification for
Newly Manufactured Baseball/Softball
Batters Helmet mounted Faceguards

NOCSAE DOC ND072

Standard Performance Specification for
Newly Manufactured Football Helmets

NOCSAE DOC ND002

Standard Test Method and Performance
Specification for Newly Manufactured
Soccer Shin Guards

NOCSAE DOC ND090

Standard Performance Specification for
Newly Manufactured Youth Baseballs

NOCSAE DOC ND027

Standard Performance Specification for
Newly Manufactured Baseball/ Softball
Fielder's Headgear

NOCSAE DOC ND029

Standard Performance Specification for
Newly Manufactured Lacrosse Helmets
with Faceguards

NOCSAE DOC ND041

Standard Performance Specification for
Newly Manufactured Lacrosse Face
Protectors

NOCSAE DOC ND045

Test Technology:**Test Method(s):****PERSONAL PROTECTIVE
EQUIPMENT (PPE) (Cont'd)**

Standard Performance Specification for Newly Manufactured Polo Helmets	NOCSAE DOC ND050
Standard Performance Specification for Newly Manufactured Polo Helmets	NOCSAE DOC ND019
Standard Test Method and Performance Specification for Newly Manufactured Football Players Hand Coverings	NOCSAE DOC ND030
Standard Performance Specification for Newly Manufactured Hockey Helmets	NOCSAE DOC ND035
Standard Performance Specification for Newly Manufactured Hockey Face Protectors	NOCSAE DOC ND049
Standard Performance Specifications for Newly Manufactured Lacrosse Balls	NOCSAE DOC ND087
Standard Method of Impact Test and Performance Requirements for Football Faceguards	NOCSAE DOC ND055
Standard Performance Specification for Helmet Mounted Polo Eye Protection	NOCSAE DOC ND001
Standard Drop Test Method & Equipment Used in Evaluating Performance Characteristics of Protective Headgear	NOCSAE DOC ND006
Standard Performance Specification for Newly Manufactured Youth Football Helmets	NOCSAE DOC ND021
Standard Projectile Impact Testing Method Used for Evaluating Performance of Protective Headgear, Faceguards, Projectiles	NOCSAE DOC ND048
Standard Performance Specification for Newly Manufactured Low Compression Lacrosse Balls	

HVAC TESTING

ANSI/AHRI 1360;
ANSI/AHRI 210/240; ASHRAE 127;
SASO 2681 (2007, 2013);
SASO 2682 (2007, 2013);
SASO 2663 (2007, 2012)

RESTRAINTS TESTING

NIJ 1001.00

Test Technology:

Test Method(s):

APPLIANCE TESTING

PRODUCT REQUIREMENTS

Residential Dishwashers

EPA ENERGY STAR Program Requirements Product Specification for Residential Dishwashers (v 4.1);
EPA ENERGY STAR Program Requirements Product Specification for Residential Dishwashers (v 5.2);
10 CFR 430, Subpart B, Appendix C;
10 CFR 430, Subpart B, Appendix C1

Residential Clothes Washers

EPA ENERGY STAR Program Requirements Product Specification for Residential Clothes Washers (v 5.1);
EPA ENERGY STAR Program Requirements Product Specification for Residential Clothes Washers (v 6.1);
EPA ENERGY STAR Program Requirements Product Specification for Residential Clothes Washers (v 7.0);
10 CFR 430, Subpart B, Appendix J1;
10 CFR 430, Subpart B, Appendix J2;
SASO 2692:2013 (AS/NZ 2040.1);
SASO 2693:2007; SASO 2683:2007

Residential Clothes Dryers

EPA ENERGY STAR Program Requirements Product Specification for Residential Clothes Dryers (v 1.0);
10 CFR 430, Subpart B, Appendix D2

Residential Ceiling Fans
(*excluding light kit testing*)

EPA ENERGY STAR Program Requirements Product Specification for Residential Ceiling Fans (v 2.4);
EPA ENERGY STAR Program Requirements Product Specification for Residential Ceiling Fans (v 3.0);
ENERGY STAR Testing Facility Guidance Manual Ver 1.2

Room Air Cleaners

EPA ENERGY STAR Program Requirements Product Specification for Room Air Cleaners (v 1.2);
ANSI/AHAM AC-1-2006;
UL 867 (ed 4.0);
IEC 62301 (ed 1.0)

CHEMICAL TESTING

Performance Specification: General
Specification: Cables, Fiber Optic

MIL-PRF-85045G, Supplement 1, 17 June 2014,
Sections 3.8.1 and 4.8.1 (acid gas) and 3.8.2 and 4.8.2
(halogen content)

Detail Specification: Cables, Electric, Low
Smoke Halogen-Free, For Shipboard Use,
General Specification For

MIL-DTL-24643C with Int. Amendment 1, 11 July 2011,
Sections 4.8.23 (acid gas) and 4.8.24 (halogen content)

Detail Specification: Cables, Lightweight,
Low Smoke, Electric, For Shipboard Use,
General Specification For

MIL-DTL-24640C, Supplement 1, 8 November 2011,
Sections 4.7.15 (acid gas) and 4.7.16 (halogen content)

Standards Council of Canada

600-55 Metcalfe Street
Ottawa, ON K1P 6L5
Canada

Conseil canadien des normes

55, rue Metcalfe, bureau 600
Ottawa, ON K1P 6L5
Canada

SCOPE OF ACCREDITATION

**Intertek Testing Services NA Inc
ITS CORTLAND LABORATORY
3933 U.S. Route 11, P.O. Box 2040
Cortland, NY
13045-0950**

Accredited Laboratory No. 86
(Conforms with requirements of CAN-P-4E (ISO/IEC 17025:2005))

CONTACT: Terence O'Beirne
TEL: +1 607 753 6711
FAX: +1 607 756 9891
EMAIL: terence.obeirne@intertek.com

CLIENTS SERVED: All interested parties, some tests are available off-site as per
CAN-P 1632

FIELDS OF TESTING: Biological, Electrical/Electronic, Mechanical/Physical, Thermal
& Fire Resistance

SCOPE ISSUED ON: 2016-01-28

ACCREDITATION 2019-12-10
VALID TO:

Other location : 75 Clinton Avenue, Cortland NY

The following is a Scope of Accreditation for which this testing laboratory has been accredited to ISO/IEC 17025:2005. Note that the parent organization is also accredited as a certification body. The parent organization's Scope of Accreditation for certification activities may be broader than the listing of standards and test methods that appear below. Refer to the parent organization's Scope of Accreditation granted by the SCC for certification activities found at:

<http://www.scc.ca/en/accreditation/product-process-and-service-certification/directory-of-accredited-clients>

Where standards, such as product standards, are listed below, the laboratory is considered accredited only for the testing elements in those standards.

ELECTRICAL PRODUCTS AND ELECTRONIC PRODUCTS

(Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials)

Communications Equipment and Systems:

Wiring and Related Products

CSA C22.2 No. 214 UL 444 Communications Cable

CSA C22.2 No. 232 Optical Fiber Cables

Components and Assemblies:

CSA C22.2 No. 140.3 Refrigerant-Containing Components for Use in Electrical Equipment

Switches and Controls

CSA C22.2 No. 139 Electrically Operated Valves
Except for: clause 7.14 Fatigue test

CSA C22.2 No. 14 Industrial Control Equipment
Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
Clause 6.4 - Overload Relay Calibration
Clause 6.5 - Overload
Clause 6.10 - Short Circuit Calibration of Test Circuits
Clause 6.11 - Short Circuit Overload Relays and Equipment Incorporating Overload Relays
Clause 6.12 - Controllers Intended for Use on Circuits Capable of Delivering High Fault Currents
Clause 6.13 - Group Fusing
Clause 6.14 - Instantaneous Trip Circuit Breakers
Clause 6.15.2 - Flammability of Enclosures

CSA C22.2 No. 142 Process Control Equipment

CSA C22.2 No. 177 Clock Operated Switches

CSA C22.2 No. 199 Combustion Safety Controls and Solid State Igniters for Gas and Oil Burning Equipment

CSA C22.2 No. 3 Electrical Features of Fuel Burning Equipment
Except for: Clause 4.8.1 - Switches and Automatic Control Devices
Clause 8.4 - Temperature Controls

CSA C22.2 No. 42 General Use Receptacles, Attachment Plugs, and Similar Wiring Devices.

Transformers

CSA C22.2 No. 107.1	Commercial and Industrial Power Supplies Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 13	Transformers for Luminous Tube Signs, Oil or Gas Burner Ignition Equipment Cold Cathode Interior Lighting
CSA C22.2 No. 173	Transformers for Toy and Hobby Use
CSA C22.2 No. 223	Power Supplies with Extra-Low-Voltage Class 2 Outputs
CSA C22.2 No. 47	Air Cooled Transformers (Dry Type)
CSA C22.2 No. 66-1	Low Voltage Transformers - Part 1: General Requirements Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 66-2	Low Voltage Transformers- Part 2: General Purpose Transformers
CSA C22.2 No. 66-3	Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials Low Voltage Transformers- Part 2: Class 2 and Class 3 Transformers Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C802	Maximum Losses for Distribution, Power, and Dry-Type Transformers

Wiring and Related Products

CSA C22.2 No. 0.3	Test Methods for Electrical Wires and Cables Except for: Clause 4.36.3 - Circuit Integrity
CSA C22.2 No. 131	Type TECK 90 Cable
CSA C22.2 No. 208	Fire Alarm and Signal Cable
CSA C22.2 No. 21	Cord Sets & Power-Supply Cords Except for: Clauses 6.11 Mechanical Drop - Hospital Grade Attachment plug and Cord Connector 6.13 Cycling Heat 6.14 Endurance (Cord Reel) 6.15 Heating (Cord Reel) 6.16 Normal Heating (Cord Reel) 6.19 Endurance (Extension Cord Set Storage Winder) 6.24 Overload 6.25 Abrupt Pull (Cords Employing a Grounding Conductor) 5.26 Improper Insertion
CSA C22.2 No. 38	Thermoset Insulated Wires and Cables
CSA C22.2 No. 49	Flexible Cords and Cables
CSA C22.2 No. 51	Armored Cables

Electrical Appliances:

CSA E335-1	Safety of Household and Similar Electrical Appliances-Part 1 General Requirements Except for: Clause 24-Components
CSA E60335-1	Household and similar electrical appliances-Safety- Part 1: General requirements Except for: Clause 24-Components
CSA E60335-2-10	Household and similar electrical appliances-Safety- Part 2-10: Particular requirements for floor treatment machines and wet scrubbing machines
CSA E60335-2-13	Household and similar electrical appliances-Safety- Part 2-13: Particular requirements for deep fat fryers, frying pans and similar appliances
CSA E60335-2-29	Household and similar electrical appliances-Safety- Part 2-29: Particular requirements for battery chargers
CSA E60335-2-3	Household and similar electrical appliances-Safety- Part 2-3: Particular requirements for electric irons
CSA E60335-2-41	Safety of Household and Similar Electrical Appliances-Part 2: Particular Requirements for Pumps for Liquids Having a Temperature Not Exceeding 35 Degrees C- General Instructions No 1
CSA E60335-2-54	Safety of Household and Similar Electrical Appliances Part 2: Particular Requirements for Surface-Cleaning Appliances Employing Liquids-General Instructions No 1
CSA E60335-2-69	Household and similar electrical appliances-Safety- Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances
CSA E60335-2-8	Household and similar electrical appliances Safety Part 2-8: Particular requirements for shavers, hair clippers and similar appliances

Cooking and Liquid Heating

(See also Energy Equipment section for EPA ENERGY STAR Program Requirements for Water Heaters)

CSA C191	Performance of Electric Storage Tank Water Heaters Except for: Clause 3.10 - Cathodic Protection
CSA C22.2 No. 109	Commercial Cooking Appliances
CSA C22.2 No. 110	Construction and Test of Electric Storage-Tank Water Heaters
CSA C22.2 No. 1335.2.9	Portable Electric Motor Operated and Heating Appliances: - Part. Req. for Portable Electric Cooking Appliances
CSA C22.2 No. 61	

Standards Council of Canada Accredited Laboratory No. 86

	Household Cooking Ranges
	Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 64	Household Cooking and Liquid-Heating Appliances
CSA C358	Energy Consumption Test Methods for Household Electric Ranges
CSA E335-2-15	Safety of Household and Similar Electrical Appliances Part 2 Req. for Appliances for Heating Liquids
CSA E335-2-21	Safety of Household and Similar Electric Appliances Part 2 Part. Req. for Storage Water Heaters
CSA E60335-2-15	Household and Similar Electrical Appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids
CSA E60335-2-21	Safety of Household and Similar Electrical Appliances - Part 2: Particular Requirements for Storage Water Heaters
CSA E60335-2-9	Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances

Heating, Refrigerating and Air Conditioning

ANSI/ASHRAE 146	Methods of Testing and Rating Pool Heaters
ANSI/ASHRAE 33	Method of Testing Forced Circulation Air Cooling and Air Heating Coils
10 CFR 430, Subpart B, Appendix O	Uniform Test Method for Measuring the Energy Consumption of Vented Home Heating Equipment
AHRI 1010	Drinking Fountains & Self-Contained, Mechanically-Refrigerated Drinking-Water Coolers
AHRI 1060	Rating Air-To-Air Energy Recovery Ventilation Equipment
AHRI 1110*	Mechanical Transport Refrigeration Units
AHRI 1160	Standard for Performance Rating of Heat Pump Pool Heaters
AHRI 270	Sound Rating of Outdoor Unitary Equipment
AHRI 310/380	Packaged Terminal Air Conditioners
AHRI 320	Water-Source Heat Pumps
AHRI 325	Ground Water Source Heat Pumps
AHRI 330	Ground Source Closed-Loop Heat Pumps
AHRI 365	Commercial and Industrial Unitary Air-Conditioning Condensing Units
AHRI 390	Single Package Vertical Air - Conditioners and Heat Pumps
AHRI 400*	Standard for Liquid-to-Liquid Heat Exchangers
AHRI 410	Forced-Circulation Air-Cooling and Air-Heating Coils
AHRI 430	Central-Station Air-Handling Units
AHRI 440	Room Fan-Coil
AHRI 550/590*	Centrifugal & Rotary Screw Water-Chilling Packages
AHRI 820	Ice Storage Bins

Standards Council of Canada Accredited Laboratory No. 86

AHRI 840-1998	Unit Ventilators
AHRI 880	Air Terminals
AHRI 910	Performance Rating of Indoor Dehumidifiers
ANSI/AHRI 1200-2008	Performance Rating of Commercial Refrigerated Display Merchandisers and Display Cabinets
ASHRAE 84	Method of Testing Air-To-Air Heat Exchangers
CSA C22.2 No. 104	Humidifiers Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 113	Fans and Ventilators Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 117	Room Air Conditioners
CSA C22.2 No. 120	Refrigeration Equipment
CSA C22.2 No. 155	Electric Duct Heaters
CSA C22.2 No. 236	Heating and Cooling Equipment Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 46	Electric Air Heaters
CSA C22.2 No. 63	Household Refrigerators and Freezers Except for: CAN/CSA C22.2 No. 0.17 Evaluation of Properties of Polymeric Materials
CSA C22.2 No. 72	Heater Elements
CSA C22.2 No. 88	Construction and Test of Industrial Heating Equipment
CSA C22.2 No. 92	Dehumidifiers
CSA C273.3	Performance Standard for Split-System Central Air Conditioners and Heat Pumps
CSA C300	Capacity Measurement and Energy Consumption Test Methods for Refrigerators, Combination Refrigerator-Freezers, Freezers
CSA C368.1	Performance Standard for Room Air Conditioners
CSA C370	Cooling Performance of Portable Air Conditioners
CSA C446	Performance of Ground Source Heat Pumps
CSA C655	Performance Standard for Internal Water Loop Heat Pumps
CSA C656	Performance Standard for Single Package Central Air-Conditioners and Heat Pumps
CSA C742	Performance of Automatic Ice-Makers and Ice Storage Bins
CSA C743	Performance Standard for Rating Packaged Water Chillers
CSA C744	Standard for Packaged Terminal Air Conditioners and Heat Pumps
CSA C746	Performance Standard for Rating Large Air Conditioners and Heat Pumps
CSA E335-2-65	Household and similar Electrical Appliances Part 2 Part. Req. for Air Cleaning Appliances
EN 14511-1	Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and

	cooling - Part 1: Terms and definitions
EN 14511-2	Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 2: Test conditions
EN 14511-3	Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 3: Test methods
EN 14511-4	Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 4: Requirements
IEC 60335-2-65	Household and similar electrical appliances - Safety - Part 2-65: Particular requirements for air-cleaning appliances

(EPA ENERGY STAR Program Requirements Product Specification for Air Source Heat Pump (ASHP) and Central Air Conditioner Equipment Version 4.1)

10 CFR 430 Subpart B, Appendix M ANSI/ASHRAE 37	Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps Methods of Testing for Rating Electrically Driven Unitary Air-Conditioning and Heat Pump Equipment
AHRI 210/240-94	Unitary Air-Conditioning and Air-Source Heat Pump Equipment
ANSI/AHRI 210/240	Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment

(EPA ENERGY STAR Program Requirements Product Specification for Commercial Ice Machines Version 1.1)

10 CFR Part 431, Subpart H	Automatic Commercial Ice Makers
AHRI 810	Performance Rating of Automatic Commercial Ice-Makers

(EPA ENERGY STAR Program Requirements Product Specification for Dehumidifiers Eligibility Criteria Version 2.1)

10 CFR Part 430, Appendix X, Subpart B ANSI/AHAM DH-1	Uniform Test Method for Measuring the Energy Consumption of Dehumidifiers Dehumidifiers Only for: Sections 4, 5 and 7 (using a watt-hour meter)
CSA C749	Performance of Dehumidifiers

(EPA ENERGY STAR Program Requirements Product Specification for Geothermal Heat Pumps Version 3.1)

AHRI 870	Standard for Performance Rating of Direct GeoExchange Heat Pumps
ISO 13256-1	

Standards Council of Canada Accredited Laboratory No. 86

ISO 13256-2	Water-Source Heat Pumps - Testing and Rating for Performance
	Part 1: Water-to-air and brine-to-air heat pumps
	Water-Source Heat Pumps - Testing and Rating for Performance
	Part 2: Water-to-water and brine-to-water heat pumps

(EPA ENERGY STAR Program Requirements Product Specification for Light Commercial HVAC Version 2.2)

ANSI/AHRI 210/240	Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment
ANSI/AHRI 340/360	Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment

(EPA ENERGY STAR Program Requirements Product Specification for Residential Refrigerators and Freezers Version 4.1)

10 CFR 430, Subpart B, Appendix A	Uniform Test Method for Measuring the Energy Consumption of Electric Refrigerators and Electric Refrigerator-Freezers
10 CFR 430, Subpart B, Appendix A1	Uniform Test Method for Measuring the Energy Consumption of Electrical Refrigerators and Electrical Refrigerators/Freezers
10 CFR 430, Subpart B, Appendix B	Uniform Test Method for Measuring the Energy Consumption of Freezers
10 CFR 430, Subpart B, Appendix B1	Uniform Test Method for Measuring the Energy Consumption of Freezers

(EPA ENERGY STAR Program Requirements Product Specification for Room Air Conditioners Version 3.1)

10 CFR 430, Subpart B, Appendix F	Uniform Test Method for Measuring the Energy Consumption of Room Air Conditioners
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Lighting and Fixtures

CSA C22.2 No. 12	Portable Luminaires
CSA C22.2 No. 141-02	Unit Equipment for Emergency Lighting
CSA C22.2 No. 250	Luminaires
CSA C22.2 No. 43	Lampholders
CSA C22.2 No. 74	Lampholders and Control Equipment for Use with Electric Discharge Lamps
CSA C22.2 No. 9	Electric Lighting Fixtures
CSA C22.2No. 89	Swimming-Pool Luminaires, Submersible Luminaries and Accessories

Standards Council of Canada Accredited Laboratory No. 86

CSA C653	Performance Standard for Roadway Lighting Luminaires
CSA C654	Fluorescent Lamp Ballasts Efficacy Measurements
CSA C861	Performance of Compact Fluorescent Lamps and Ballasted Adapters
CSA C862	Performance of Incandescent PAR Lamps
ULC/ORD-C924	Photoluminescent and Self-luminous Exit Signs

Miscellaneous Electrical Appliances (Specify)

CSA C22.2 No. 1	Audio, Video and Similar Electronic Equipment
CSA C22.2 No. 10	Electric Floor Surfacing and Cleaning Machines
CSA C22.2 No. 103	Electric Fence Controllers General Instruction 1-2
CSA C22.2 No. 107.2	Battery Chargers
CSA C22.2 No. 108	Liquid Pumps
CSA C22.2 No. 118	Construction and Test of Picture Machines and Appliances
CSA C22.2 No. 122	Hand-Held Electrically Heated Tools
CSA C22.2 No. 128	Vending Machines
CSA C22.2 No. 130	Requirements for Electrical Resistance Cables and Heating Device Sets
CSA C22.2 No. 164	Electric Sauna Heating Equipment
CSA C22.2 No. 187	Electrostatic Air Cleaners
CSA C22.2 No. 189	High Voltage Insect Killers
CSA C22.2 No. 205	Signal Equipment
CSA C22.2 No. 207	Portable and Stationary Electric Signs and Displays
CSA C22.2 No. 221	Electric Heated Hobby a& Education Type Kilns
CSA C22.2 No. 36	Hairdressing Equipment Only for: hand held hair dryers
CSA C22.2 No. 81	Electric Irons
CSA C22.2 No. 99	Construction and Test of Domestic Electric Ironing Machines
CSA E491	Safety Requirements for Electronic Flash Apparatus for Photographic Purposes
CSA E60335-2-16	Safety of Household and Similar Elec. Appliances Part 2 for Food Waste Disposers
CSA E60335-2-27	Safety of Household and Similar Electrical Appliances Part 2 Part. Req. for Ultra Violet and Infra Red Radiation Skin Treatment Appliances
CSA E60335-2-45	Safety of Household and Similar Elec. Appliances Part 2 for Portable Electric Heating Tools
CSA E60335-2-55	Household and similar electrical appliances Safety Part 2-55: Particular requirements for electrical appliances for use with aquariums and garden ponds
CSA-E60335-2-67	Safety of household and similar electrical appliances Part 2: Particular for floor treatment and floor cleaning machines, for industrial and commercial use

Motor Operated Electrical Appliances

CSA C22.2 No. 1335.1	Portable Electrical Motor-Operated and Heating Appliances Except for: Clause 24 - Components
CSA C22.2 No. 1335.2.14	Portable Electric Motor Operated Heating Appliances Part. Req. Kitchen Appliances
CSA C22.2 No. 195	Motor Operated Food Processing Appliances
CSA C22.2 No. 243	Vacuum Cleaners and Blower Cleaners Except for: Clause 7 - Current-Carrying Hoses
CSA C22.2 No. 247	Operators and Systems of Doors, Gates, Draperies, and Louvres
CSA C22.2 No. 68	Motor Operated Appliances (Household and Commercial)
CSA C22.2 No. 71.1	Portable Electric Tools
CSA C22.2 No. 71.2	Electric Bench Tools
CSA C22.2 No. 73	Construction and Test of Electrically Equipped Machine Tools
CSA C22.2 No. 745	Portable Electric Tools
CSA C361	Test Method for Measuring Energy Consumption and Drum Volume of Electrically Heated Household Tumble-Type Clothes Dryers

Washing Equipment

CSA C22.2 No. 167	Household Dishwashers
CSA C22.2 No. 168	Commercial Dishwashing Machines
CSA C22.2 No. 169	Electric Clothes Washing Machines and Extractors
CSA C22.2 No. 53	Electric Washing Machines
CSA C360	Test Method for Measuring Energy Consumption and Capacity of Automatic Household Clothes Washers
CSA C373	Dishwashers

(EPA ENERGY STAR Program Requirements Product Specification for Clothes Washers Version 5.1)

10 CFR 430, Subpart B, Appendix JI	Uniform Test Method for Measuring the Energy Consumption of Automatic and Semi-Automatic Clothes Washers
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(EPA ENERGY STAR Program Requirements Product Specification for Residential Dishwashers Version 4.1)

10 CFR 430, Subpart B, Appendix C	Uniform Test Method for Measuring the Energy Consumption of Dishwashers
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Equipment, Miscellaneous

Enclosures

CSA C22.2 No. 18	Outlet Boxes, Conduit Boxes, and Fittings
CSA C22.2 No. 60529	Degrees of Protection Provided by Enclosures (IP Code)
CSA C22.2 No. 85	Rigid PVC Boxes and Fittings
CSA C22.2 No. 94	Special Purpose Enclosures

Grounding

CSA C22.2 No. 0.4	Bonding & Grounding of Electrical Equipment
CSA C22.2 No. 41	Grounding & Bounding Equipment

Hazardous Location Equipment

CSA 60079-0	Electrical apparatus for explosive gas atmospheres- Part 0: General requirements
CSA 60079-1	Electrical apparatus for explosive gas atmospheres- Part 1: Flameproof enclosures "d" - first edition
CSA C22.2 No. 137	Electric Luminaires for Use in Hazardous Locations
CSA C22.2 No. 138	Heat Tracing Cable and Cable Sets for Use in Hazardous Locations
CSA C22.2 No. 145	Motors and Generators for Use in Hazardous Locations
CSA C22.2 No. 157	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CSA C22.2 No. 213	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CSA C22.2 No. 22	Electrical Equipment for Flammable and Combustible Fuel Dispensers
CSA C22.2 No. 25	Enclosures for Use in Class II Groups E, F and G Hazardous Locations
CSA C22.2 No. 30	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CSA E60079-0	Electrical Apparatus for Explosive Gas Atmospheres Part 0 Gen Req.
CSA E60079-1	Electrical Apparatus for Explosive Gas Atmospheres Part 1, Flameproof Enclosures "d"
CSA E60079-11	Electrical Apparatus for Explosive Gas Atmospheres Part 11 Intinsic Safety "I" Gen. Instruction NO. 1
CSA E60079-15	Electrical Apparatus for Explosive Gas Atmospheres, Part 15: Electrical Apparatus with Type of Protection "n" Except for: Clause 16 - Luminaires
CSA E60079-2	Electrical Apparatus for Explosive Atmospheres Part 2: Pressurized Enclosures "p"
CSA E60079-5	Electrical Apparatus for Explosive Gas Atmospheres Part 5: Powder Filling "q"

Standards Council of Canada Accredited Laboratory No. 86

CSA E60079-6	Electrical Apparatus for Explosive Gas Atmospheres Part 6: Oil Immersion "o"
CSA E60079-7	Electrical apparatus for explosive gas atmospheres- Part 7: Increased safety "e" - Second Edition
CSA E61241-1-1	Electrical Apparatus for Use in the Presence of Combustible Dust Part 1-1: Electrical Apparatus Protected by Enclosures and Surface Temperature Limitation-Specification for Apparatus
CSA E79-18	Electrical Apparatus for Explosive Gas Atmospheres, Part 18: Encapsulation "m"
CSA E79-7	Electrical Apparatus for Explosive Gas Atmospheres-Part 7: Increased Safety "e"
IEC 60079-13	Explosive atmospheres -Part 13: Equipment protection by pressurized room 'p'
IEC 60079-25	Explosive atmospheres - Part 25: Intrinsically safe systems
IEC 60079-26	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
IEC 60079-27	Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO)
IEC 60079-28	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
IEC 60079-30-1	Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements
IEC 60079-31	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 61241-0	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD'
IEC 61241-11	Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD'
IEC 61241-1-1	Electrical apparatus for use in the presence of combustible dust - Part 1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus
IEC 61241-18	Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD'
IEC 61241-4	Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD'
IEC 62086-1	Electrical apparatus for explosive gas atmospheres - Electrical resistance trace heating - Part 1: General and testing requirements

Information Processing and Business Equipment:

CSA C22.2 No. 220	Information Processing and Business Equipment
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Standards Council of Canada Accredited Laboratory No. 86

CSA C22.2 No.60950-1	Safety of Information Technology Equipment, Including Electrical Business Equipment Except for: Clause 4.3.12 - Construction Details Clause 6 - Connection to Telecommunication Networks Annex A3 Flaming Oil Test Annex AA Mandrel test
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Motors, Generators, and Machines:

CSA C22.2 No. 77	Motors with Inherent Overheating Protection
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Scientific Instruments: (For biological, chemical electrical, mechanical optical and physical examination)

Laboratory Equipment

CSA C22.2 No. 1010.2.020	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use
CSA C22.2 No. 151	Laboratory Equipment
CSA C22.2 No. 231	CSA Safety Requirements for Electrical and Electronic Measuring and Test Equipment
CSA C22.2 No. 61010-1*	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements Except for: Clause 12.2.2 - Accelerated electrons Clause 12.6 - Laser sources Clause 14 - Components

ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND SAFETY

Occupational Health and Safety:

Clothing

(Protective Clothing)

ASTM F1670	Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Synthetic Blood
ASTM F1671	Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System
ASTM F1790	Standard Test Method for Measuring Cut Resistance of Materials Used in Protective Clothing
ASTM F739	

Standards Council of Canada Accredited Laboratory No. 86

	Standard Test Method for Permeation of Liquids and Gases through Protective Clothing Materials under Conditions of Continuous Contact
ASTM F903	Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Liquids.
NIJ 0116.00	CBRN Protective Ensemble Standard for Law Enforcement
	Except for: Section 6.36 (Glove Hand Function Test), 6.19 (Tactical Scenario Test), Section 6.22 (liquid chemical warfare agents) 6.27 (Tearing strength), 6.34 (Total Heat Lost), 6.42 (Slip resistance Test)
NIJ 99-114	Test Protocol For Comparative Evaluation Of Protective Gloves For Law Enforcement And Corrections Applications

Personal Protection

ANSI Z358.1 (ISEA Z358.1)	Emergency Eyewash and Shower Equipment
ANSI Z89.1	Industrial Protection (Headgear)
ANSI/ASSE Z359.1	Safety Requirements for Personal Fall Arrest Systems, Subsequent and Components
ANSI/ASSE Z359.12	Connecting Components for Personal Fall Arrest Systems
ANSI/ASSE Z359.13	Personal Energy Absorbers and Energy Absorbing Lanyards
ANSI/ASSE Z359.14	Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
	Except for: 5b and 5c
ANSI/ASSE Z359.4	Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
	Only for: Section 4.3.6.1, Static Strength Test, hoist line Section 4.3.6.2, Static Strength Test, hoist Section 4.3.6.3, Function Test, Force to raise/lower Section 4.3.6.4, Function Test, Slippage Section 4.3.6.5, Function Test, Brake Section 4.3.6.9, Function Test, Secondary Brake
ANSI/ASSE Z87.1 (ISEA Z87.1)	Occupational and Educational Personal Eye and Face Protection Devices
ASTM F1045	Performance Specification for Ice Hockey Helmets
ASTM F1163	Headgear Used in Horse Sports and Horseback Riding
ASTM F1446	Standard Test Methods for Equipment and Procedures Used in Evaluating the Performance Characteristics of Headgear
ASTM F1447	Standard Specification for Helmets Used in Recreational Bicycling or Roller Skating
ASTM F1492	Standard Specification for Protective Headgear Used in

Standards Council of Canada Accredited Laboratory No. 86

ASTM F1587	Skateboarding and Freestyle Roller Skating Standard Specification for Head and Face Protective Equipment for Ice Hockey Goaltenders
ASTM F513	Safety Specifications for Eye and Face Protective Equipment for Hockey Players
ASTM F887-12	Arc-Resistant Fall Protection Products Only for: section 23.7 for harnesses and shock absorbing lanyards
CPSC 16 CFR Part 1203	Safety Standard for Bicycle Helmets Final Rule
CSA Z259.10	Full body harnesses
CSA Z259.11	Energy absorbers and lanyards
CSA Z259.12	Connecting Components for Personal Fall Arrest Systems (PFAS)
CSA Z259.2.1	Fall Arresters, Vertical Lifelines, and Rails
CSA Z259.2.2	Self-Retracting Devices for Personal Fall-Arrest Systems
CSA Z94.1	Industrial Protective Headwear
CSA Z94.3	Industrial Eye and Face Protectors
NIJ 0104.2	Police Riot Head Protection (Helmets, Faceshields)

(NFPA Methods

Except for: *Total Heat Loss, Wet Flex, Adhesion after Wet Flex and Flex at Low Temperatures*

NFPA 1851	Standard On Selection, Care, And Maintenance Of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting Only for: Section 11
NFPA 1951	Standard on Protective Ensemble for USAR Operations Except for: Warfare Agents Permeation, ASTM F1868, ASTM F489
NFPA 1971	Protective Ensemble for Structural Fire Fighting (Footwear, Gloves, Clothing, Helmets)
NFPA 1975	Station/Work Uniforms for Fire Fighters
NFPA 1977	Protective Clothing and Equipment for Wildland Fire Fighting (Helmets, Clothing, Footwear)
NFPA 1981	Open-Circuit Self Contained Breathing Apparatus for the Fire Service (SCBA)
NFPA 1982	Personal Alert Safety Systems (PASS) for Fire Fighters
NFPA 1983	Fire Service Life Safety Rope and System Components
NFPA 1991	Vapor-Protective Suits for Hazardous Chemical Emergencies Except for: Slip test, Warfare agent permeation
NFPA 1992	Liquid Splash Protective Suits for Hazardous Chemical Emergencies Except for: Slip test, Warfare agent permeation
NFPA 1994	Standard of Protective Ensemble for Chemical/Biological Terrorism Incidents

Standards Council of Canada Accredited Laboratory No. 86

NFPA 1999	Except for: Slip test, Warfare agent permeation Protective Clothing for Emergency Medical Operations
NFPA 2112	Except for: Slip test, Warfare agent permeation Standard On Flame-Resistant Garments For Protection Of Industrial Personnel Against Flash Fire
	Except for: Section 8.5

(Thermal Imagers)

NFPA 1801	Standard On Thermal Imagers For The Fire Service
	Except for: EMC

NON METALLIC MINERALS AND PRODUCTS

Energy Equipment: (Appliances)

BTS-2000*	Method To Determine Efficiency Of Commercial Space Heating Boilers
CGA P.2*	Testing Method for Measuring Annual Fuel Utilization Efficiencies of Residential Furnaces and Boilers
IBR 009	Testing and Rating Standard for Finned Tube (Commercial) Radiation

(ENERGY STAR Program Requirements Product Specification for Commercial Water Heaters Version 1.0)

10 CFR Part 431.106	Uniform Test Method For The Measurement Of Energy Efficiency Of Commercial Water Heaters And Hot Water Supply Boilers (Other Than Commercial Heat Pump Water Heaters)
10 CFR 431, Sub Part G*	Commercial Water Heaters, Hot Water Supply Boilers and Unfired Hot Water Storage Tanks

(EPA ENERGY STAR Program Requirements Product Specification for Boilers Version 3.0 and for Furnaces Partner Commitments Version 4.0)

ANSI/ASHRAE 193-2010	Method of Test for Determining the Airtightness of HVAC Equipment
10 CFR 430, Subpart B, Appendix N*	Uniform Test Method for Measuring the Energy Consumption of Furnaces and Boilers
ANSI/ASHRAE 124	Methods of Testing for Rating Combination Space-Heating and Water-Heating Appliances

(EPA ENERGY STAR Program Requirements Product Specification for Residential Water Heaters Version 3.0)

10 CFR 431, Subpart G	Commercial Water Heaters, Hot Water Supply Boilers and Unfired Hot Water Storage Tanks
10 CFR 430, Subpart B, Appendix E	Uniform Test Method for Measuring the Energy Consumption of Water Heaters
ANSI/ASHRAE 118.2	Methods of Testing for Rating Combination Space-Heating and Water-Heating Appliances Only for: Section 11.2

Natural Gas Fired Appliances

ANSI Z21.10.3*	Gas Water Heaters - Volume III, Storage Water Heaters With Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous
CSA 1.8	Food Service Equipment
CSA 2.6/ANSI Z83.8	Gas Unit Heaters and Gas-Fired Dust Furnaces
CSA 3.7/ANSI Z83.4	Non-Recirculating Direct Gas Fired Industrial Air Heaters
CSA 4.3*	Gas Water Heaters - Volume III, Storage Water Heaters With Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous
CSA 4.9*	Gas Fired Steam Hot Water Boilers

Oil Fired Appliances

CSA B140.8	Portable Industrial Oil-Fired Heaters
CSA B140.0	General Requirements for Oil Burning Equipment
CSA B140.10	Oil Fired Warm Air Heating Appliances for Mobile Housing and Recreational Vehicles
CSA B140.3	Oil Burning Stoves and Water Heaters
CSA B140.4	Oil-Fired Warm Air Furnaces
CSA B140.7.1	Oil-Fired Steam & Hot-Water Boilers for Residential Use
CSA B211*	Oil-Fired Water Heaters
CSA B212*	Oil-Fired Furnaces and Boilers

Glass and Glass Products:

ANSI Z26.1	Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways - Safety Code
CGSB 12.1	Tempered or Laminated Safety Glass

Notes:

CAN-P-4E (ISO/IEC 17025): General Requirements for the Competence of Testing and Calibration Laboratories (ISO/IEC 17025-2005)

Standards Council of Canada Accredited Laboratory No. 86

* CAN-P-1632 Requirements for the Accreditation of Testing and Calibrations Laboratories Performing On-Site Testing and Calibrations

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